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SPECIAL ARTICLES

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TREATMENT OF THE EXANTHEMATA**

J. G. FITZGERALD, M.D., LL.D.

**THE RURAL COMMUNITY AND THE NURSING
OUTPOST**

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THE HONOURABLE WILLIAM RENWICK RIDDELL, LL.D., D.C.L.

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The Public Health Journal

VOL. XVII.

TORONTO, DECEMBER, 1926

No. 12

Present Status of Serum Therapy in the Treatment of the Exanthemata*

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THE exanthemata or eruptive fevers constitute a group of clinical entities which have the following features in common:

- (1) The appearance during the course of an attack, of an exanthem or rash. Occasionally a case occurs in which this symptom is wanting, or, at any rate, not observed.
- (2) All are due to the invasion of living micro-organisms.
- (3) Exanthemata are transmissible from one individual to another.
- (4) A number of them are susceptible to specific serum treatment.

The exanthemata may be said to include the following: Cerebro-Spinal Meningitis, Dengue, Erysipelas, Glanders, German Measles, Scarlet Fever, Smallpox, Typhoid Fever, Typhus Fever, Vaccinia, Chickenpox. Antitoxins or anti-sera are, or have been, used in the treatment of:

Cerebro-Spinal Meningitis.
Erysipelas.
Measles.
Scarlet Fever.
Typhoid.

Specific serum therapy is of recent development. In 1890 von Behring prepared diphtheria antitoxin. This was the first specific serum. In 1894 Roux and Martin presented the evidence which indicated that the introduction of antitoxin treatment of diphtheria marked the open-

*Read at the Cleveland Assembly of the Inter-State Post Graduate Medical Association of North America, October 21st, 1926.

ing of a new era in the history of therapeutics. Thirty-two years have since elapsed. In that time substantial progress has been made. Some of the limitations of serum treatment have been established. Fresh interest in the subject, however, has been aroused as a result of contributions made during the past two or three years.

A brief review of earlier work and a summary of the present position of specific treatment of Cerebro-Spinal (*Meningococcus*) Meningitis, Erysipelas, Measles, Scarlet Fever and Typhoid Fever will now be undertaken.

Cerebro-spinal (Meningococcus) Meningitis:

Beginning in 1905, Jochmann and Kollo and Wassermann, in Germany, and Park, in the United States, prepared anti-meningococccic sera and reported the result obtained in the treatment of limited groups of cases. In the same year, Flexner and his associates initiated experiment work which was carried on for several years and finally resulted in a sound scientific basis being established for the clinical use of anti-meningococccic sera. In addition, Flexner and Jobling, Dopter, Netter, Gardner Robb and others reported the results obtained in the treatment of large groups of cases. Certain facts were quickly established. Among the more significant of these were:

1. In untreated cases of meningococcus meningitis in various epidemics the case fatality rate was 70 to 81 per cent, while among treated cases it was about 30 per cent.
2. Potent anti-meningococccic sera contain opsonins which facilitate phagocytosis, bactericidal substances which destroy meningococci directly, probably anti-endotoxins and agglutinins.
3. The therapeutic efficacy of these sera may be determined with a reasonable degree of accuracy.

It was also learned that, while, as a rule, if serum treatment was undertaken early (preferably on the first day on which the symptoms were observed) gratifying results were obtained in the great majority of cases, occasionally it was recorded that patients failed to respond to serum treatment even when it was begun on the first day of the disease and where abundant and presumably potent serum was administered. In consequence, it was recommended that the horses used for the production of anti-meningococccic sera be given injections of a considerable number of different strains of the micro-organism. This was the usual procedure until 1918-19, when Gordon and others suggested that monovalent rather than polyvalent serum might be preferable. Such monovalent sera have been employed in the United Kingdom with a certain

degree of success, apparently. In the United States and Canada, polyvalent sera only have been used. Just recently (July, 1926) Wadsworth and Kirkbride have published the results of a combined clinical and laboratory study. They conclude that "the immunization of horses with six selected representative strains (of meningococci) apparently produces serum of higher titre and poyvalency than with a larger or smaller number of strains."

With reference to the treatment of a patient presenting signs of meningeal irritation, it is essential that lumbar puncture should be performed as soon as possible; that, in the presence of turbid fluid or demonstrable meningococci, serum should be injected into the spinal canal at once in amounts only slightly less than those of the fluid withdrawn. Early free drainage relieves pressure and is of itself beneficial. The patient can most often be treated successfully if lumbar puncture is done and serum administered under an anaesthetic. Serum treatment will, of course, be unavailing if the etiological agent is found to be any species of bacteria other than the meningococcus. Treatment will be of no avail frequently in cases of "closed meningitis," where the foramen of Magendie is blocked and communication between the intra-ventricular and sub-arachnoidal spaces interrupted. In these circumstances the injection of serum into the ventricles after trephining or cistern puncture may be resorted to.

It occasionally happens that a patient suffering from meningococcus meningitis and progressing satisfactory under specific serum treatment quite suddenly presents alarming symptoms, fails to respond to further treatment and quickly dies. At autopsy, or even before, such cases may show pneumococci as well as meningococci in the cerebro-spinal fluid. These cases of "mixed infection" meningitis result fatally as a rule. It is a good practice, whenever it is at all possible, to examine macroscopically and microscopically some of each lot of cerebro-spinal fluid withdrawn during the progress of the illness. Cases of hemorrhagic meningococcal meningitis usually run a rapidly fatal course and do not respond to treatment. Such cases may give rise to difficulties in diagnosis. Experience gained during the Great War emphasized anew lessons learned earlier but sometimes forgotten, namely that the most important considerations are suitable preventive measures, then, when these fail, immediate lumbar puncture and early vigorous serum treatment (preferably with the patient under anaesthetic while lumbar puncture is done and serum administered) in every patient presenting the clinical picture of meningococcus meningitis.

Erysipelas:

Anti-streptococcal serum has for many years past been used in the treatment of erysipelas with apparently more or less indifferent results. Birkhaug believes he has recently established (1925-26) that a specific relationship exists between *Streptococcus erysipelatis* and erysipelas; that this micro-organism elaborates a specific antitoxin, and that this latter neutralizes the exotoxin of *Streptococcus erysipelatis*. Furthermore, Birkhaug has been unable to neutralize erysipelas exotoxin with scarlet fever antitoxin. Susceptible persons will react to the intracutaneous injection of small amounts of erysipelatis toxin and convalescent erysipelas serum will neutralize this toxin. The results obtained in the treatment of sixty cases of erysipelas with erysipelas antistreptococcal serum have also been reported by Birkhaug, who concluded: "Clinical trials in sixty moderately severe cases of erysipelas have demonstrated that intramuscular injection of erysipelas antistreptococcal serum, in amounts of 100 c.c. of the unconcentrated and from 15 to 20 c.c. of the concentrated serum, when administered during the first three days of the disease, causes a prompt amelioration of toxic depression, a critical fall in temperature and pulse rate, prompt fading of the erysipelatous lesion and rapid absorption of the blebs and edema within the affected area." Further reports on the results obtained in the use of this serum will be awaited with interest.

Measles:

Nicole and Conseil in 1918 published the results obtained by them in a series of children who, after exposure to measles, were given a prophylactic dose of human convalescent measles serum. Very considerable interest has been manifested in this procedure and numerous communications reporting results have appeared. The work of Degkwitz has been especially interesting and his communications should be consulted. The literature up to 1924 was summarized by Zingher in an article published in that year. In that communication he detailed the methods employed in the Health Department of New York City to obtain serum. Specific recommendations for the use of human convalescent measles serum, as well as the results obtained in a series of 160 exposed persons were also set forth by Zingher. These results were summarized by him as follows:—

"Convalescent measles serum, plasma or whole blood has definite value in the prophylaxis of measles. It can be used to produce complete passive immunity, if injected within the first four or five days after

exposure. It can be injected to modify the character of the disease rather than to prevent the development."

Doses of 2.5 c.c. to 7.5 c.c. of serum for children of three years of age were recommended. In the group of 102 non-immunes reported in this paper, 92, injected after exposure, were apparently protected, while nine developed measles.

Still more recently (August, 1926) Park and Freeman and Haas and Blum report results obtained in prophylactic use of human convalescent measles serum in 1,500 and 174 children respectively. Convalescent blood was withdrawn between the ninth and twenty-first day after the temperature had become normal. In certain instances, blood was withdrawn as late as five months after recovery. Park and Freeman recommend the injection of 6 c.c. of convalescent serum or plasma into children under three years of age and from 6 c.c. to 10 c.c. for children over three years of age who have been exposed to measles five days (or less) previously. Park and Freeman emphasize that the administration of convalescent measles serum, if it does not prevent, will so modify the attack that it will be very mild and not likely lead to complications. Thus measles convalescent serum in the light of these results may be regarded as a valuable therapeutic agent which, when used promptly before the seventh day after exposure, will prevent the development of serious complications such as broncho-pneumonia, bronchitis, etc.

Townsend (1926) in reporting upon the results obtained in the use of measles convalescent serum states: "32 cases who received convalescent blood, at least eight days before the development of the rash, showed an average febrile period of 3.6 days, whereas 21 unprotected boys showed an average febrile period of 6.4 days." There were no complications in the group of 32, whereas, in the uninoculated group of 21, there was one case of broncho-pneumonia, one of otitis media, one of frontal sinusitis and one of external otitis. Townsend especially emphasizes the mild character of the disease among many of the boys who were inoculated. The practical difficulty of obtaining adequate supplies of human convalescent measles serum prevents the widespread employment of this method of specific serum therapy. For this reason, the recent work of Tunnicliffe and Ferry and Fisher has received considerable attention. In a word, these workers claim that a variety of *Streptococcus viridans* is the etiological agent of measles. Ferry and Fisher have designated it *Streptococcus morbilli*. Tunnicliffe and Ferry and Fisher claim to have established the fact that this streptococcus elaborates an exotoxin which gives a positive skin reaction in those susceptible to measles but not in those immune to the disease. Tunnicliffe

and Taylor believe that intracellular toxin is more useful than extracellular in the measles skin test. These workers claim also that they have produced a specific antitoxin against *Streptococcus morbilli* toxin. The widespread employment of measles antitoxin in a large series of cases with proper controls is essential before any conclusions can be drawn as to its value in specific serum therapy of the disease.

Just recently an article on "Measles Prophylaxis," by Hoyne and Gasul, has appeared. They report the results obtained using immune goat serum. They summarize their results thus:

"There were forty-eight infants and children with definite exposures to measles. Serum was administered to thirty-nine. Thirty-four of these were protected from measles and five developed the disease in a mild form.

"There was no death or complication in any of the five cases and, in some instances, the rectal temperature did not exceed 100°F. The incubation periods were twenty, thirty-three, thirty-three, eight and sixteen days respectively. The prolonged time in some of these suggests the possibility of second exposures.

"Among the nine contacts who did not receive serum, all but one contracted measles. In the unprotected eight having measles, there were two deaths.

"Of the total immunized, 12.8 per cent. developed measles in an attenuated form. In the unimmunized, 88.8 per cent. acquired measles, with a mortality of 25 per cent.

"Serum rashes occurred in only 13 per cent. of the cases and persisted for only one or two days.

"No untoward reaction of any kind was evident in the serum receptors.

"Tunnicliffe's immune measles serum has been, in our experience, of definite value as a prophylactic for measles.

"If the serum is administered to contacts not later than the fifth day of exposure, always counting the date of onset as the first day of the disease, protection seems assured in about 90 per cent."

Scarlet Fever:

Moser, in 1902, and Gabrichevsky and Savchenko, in 1905, introduced scarlet fever serum into Austria and Russia respectively. Despite the appearance of several important articles in the Russian and German literature in 1905 and 1906, the opinion was very generally held that human scarlet fever convalescent serum was much superior as a therapeutic agent to such scarlet fever sera as were then available. Only the

difficulties incidental to obtaining adequate supplies interfered with the widespread use of scarlet fever convalescent serum. Its value was definitely shown in the published results of Weisbecker, Reiss and Jungmann, Zingher, Kling, Widfelt, Weaver, Hannah, and many others.

In 1917 Schultz and Charlton demonstrated the phenomenon of blanching. Convalescent scarlet fever serum introduced intracutaneously into the skin of a patient with a fully developed rash caused the latter to fade at the site of injection. That was evidence of specific antitoxin neutralization of the toxin in the skin of the patient so treated. This observation was followed by an important series of papers on the bacteriology of scarlet fever, and finally the work of the Dicks and of Dochez has established specific serum therapy in scarlet fever on a secure foundation.

What are the indications for the employment of scarlet fever streptococcus serum or scarlet fever antitoxin and what benefits will accrue to the patient when such treatment is carried out? Blake and Trask have published results obtained in the treatment of patients with Dochez serum. G. F. and G. H. Dick have also recorded results obtained where scarlet fever antitoxin prepared by their methods was used. Gardner Robb in Belfast, Cushing in Montreal, and Hannah in Toronto, have recently published their observations in large series of cases treated with specific scarlet fever serum or antitoxin. Cushing treated 500 cases with antitoxin during the year 1925-1926. Of these about 5 per cent. were classified as severe cases, the others as moderate or mild. During the previous year Cushing had under his charge over 100 cases of practically the same types of cases not treated with serum. This constituted a control group. An additional control group of 300 was observed at the same time as specific serum treatment was given to the group of 500 patients.

The rule in treatment was to give a full dose of serum to every definite case of scarlet fever on admission unless the case was extremely mild (temperature less than 100°F.) or when there was a history of asthma or idiosyncrasy to horse serum. Cushing states that the most constant and certain action of the serum is to produce a marked fall in temperature. A similar favorable effect on the pulse rate is observed. The eruption fades very quickly, a great improvement is manifested in the toxic symptoms, namely: rash, delirium, headache, joint-pains, etc. Cushing emphasizes that all observers are agreed that the administration of adequate doses of potent scarlet fever antitoxin will cut short or abort the first week's fever.

Cushing's observations on the effect of serum on the complications are also of interest. During 1926, in a series of 1,073 cases, 45 per

cent. developed complications, whereas in those treated with the anti-toxin 25 per cent. only suffered from sequelae. Without serum, otitis media as a complication developed in 14 per cent. of patients, whereas in the serum-treated group only 8 per cent. developed middle ear disease. Similar favorable results were noted in respect of other complications. The case fatality-rate among scarlet fever patients under Cushing's care in 1924-25-26 has fallen from 3.5 to 1.2 per cent. Cushing believes that scarlet fever antitoxin should be administered to every case of the disease at the earliest possible moment. The dose of concentrated serum most generally recommended is from 15 c.c. to 30 c.c. repeated promptly if necessary.

Of the serum treatment of typhoid fever, only a word need be said. Chantemesse introduced a specific anti-typhoid serum which has had a very limited field of usefulness. Absolute control and elimination of typhoid fever through sanitary effort and specific prevention by means of typhoid vaccination have been found to be the correct solution of the problem of typhoid fever. Since it is literally a vanishing disease, efforts toward prevention rather than treatment should concern us.

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The Rural Community and the Nursing Outpost

By MAUDE E. WILKINSON, *Reg.N.*

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WE have listened this morning with keen interest to a careful analysis of the causes of mortality among the newly born, in which our attention is focused on the babe—to the discussion of adequate pre-natal care—in which we think primarily of the expectant mother's condition, and thirdly, to an expert opinion on the prevention of infections in early infancy, under which heading we cannot overlook the mother's post-natal care.

All of these subjects open up large fields of research and activity in the promotion of health. The progress made and results attained are far-reaching in the urban centres where trained workers, through their organized clinics—home visiting and child welfare institutions are able to follow up their work. In these centres with advantages of education and wealth it is possible for every expectant mother to get advice and counsel free of charge if necessary, and our infant mortality should be less each year, and our maternal deaths and still births should be practically non-existent, but what about our rural communities? I don't mean our smaller organized districts—which can obtain provincial assistance toward the maintenance of a public health nurse and are supporting a doctor or perhaps two. I mean the sparsely settled communities separated by miles of acreage, where the bare maintenance of life is a daily problem, which the addition of sickness and ill-health makes more complex. How can we bring the knowledge and experience gained in larger centres to these equally deserving and perhaps more appreciative communities? The Red Cross in Canada recognized this great field for the promotion of health, the prevention of disease, and directed the interest of their great body of war workers to this equally important mitigation of peace-time suffering. To-day they have 32 outposts scattered throughout the rural communities in Canada where 52 fully-trained nurses are engaged in the crusade for good health, with the result that during 1925 2,135 patients were admitted for care and treatment (a great number of which were confinement cases) and 3,014 homes were visited, treatments given and nursing care administered. A mere drop in the bucket compared to the size of Canada, but we feel a progressive move in the right direction.

Read at the Canadian Health Congress, Toronto, May 6, 1926.

Sixteen of the thirty-two outposts in Canada are located in Ontario, eight of the sixteen are termed "outpost hospitals" and were established where there was no hospital accommodation in the district, which occasions unnecessary delay and additional suffering, sometimes resulting in the loss of life. The remaining eight outposts are located in purely rural districts. In six of these villages there is no resident doctor, the nearest one living forty to fifty miles away. The problems confronting the nurses in these districts are numerous. No matter how far away the nearest doctor is located, her first duty is to see him and acquaint him of her desire to work under his supervision, and secure from him such standing orders as he is able to give for certain definite types of cases that she is called upon to attend when it is impossible for him to be present. We fully realize that the service we are giving in these districts is incomplete without a doctor's supervision, and that the nurses in undertaking to fill the need are only meeting the emergency until adequate medical attention is arranged. The Red Cross is very grateful to the medical men in the rural communities in Ontario for their co-operation and sympathetic consideration shown to its nurses working in these isolated areas.

We feel that the nurses living in the community, meeting the people in their social gatherings, are in a position to work with better understanding of their daily life. It has been our experience that after the nurse becomes acquainted and has gained the confidence of the people, they come to her and discuss their problems and she is able to direct them either by a little practical advice, the contribution of health literature, or if necessary, advising them to consult the doctor. In this way we come in contact with the pre-natal cases, with the sick and ailing child. When they enter the outposts and hospitals as patients we are able to demonstrate as well as teach health, to encourage the mother to periodically return to the outpost to weigh her baby and to consult with us when the supplementary feedings start and notify us of the first signs of sickness. These, and many others, which time does not allow me to enumerate, represent the activities of our field nurses in their contributions to child health. We aim to make every outpost a health centre.

For discussion I would like to enumerate a few of our daily problems:—

1. How can we make it possible for patients to call a doctor as often as our nurses feel is necessary, when each trip represents a financial outlay of \$25.00 to \$50.00?
2. How can the home be cared for when the mother is ill and it would be better for her to enter the hospital?
3. How can we better equip our nurses to meet the emergency when it is impossible to get the doctor?

Hieronymi Fracastorii Syphilidis Sive Morbi Gallici

By the HONOURABLE WILLIAM RENWICK RIDDELL, LL.D., D.C.L., ETC.
President, Canadian Social Hygiene Council

BOOK III

BUT now the happy groves of another world and foreign glades are calling me. Far sounds the sea beyond the Pillars of Hercules,¹ and far resound the distant shores.

Now am I to sing the great gifts of the gods and the sacred tree brought from an unknown world, which alone gave relief and rest from pain and set a limit to afflictions.

Come, Divine Urania, bless the happy grove—having bound thy tresses with a new wreath² be pleased to go through Latium in medical gown and show the sacred branches to the people—and be pleased to show what was never seen before in the age of our ancestors—never related by anyone. Perchance some other bard, captivated by the wondrous appearance of novelty and accustomed to sing heroes and mighty deeds, will sing the prows daring to try the perils of an untouched ocean—he will tell of various lands and streams and cities and monsters discovered—enormous regions, stars rising in another world and an Arctos distinguished by greater stars.³ Nor will he be silent concerning new wars and banners borne through a whole new world and laws prescribed and our names given.⁴ And he will sing (what coming centuries will scarce believe, when heard) all that space which the vast water of the ocean includes, measured and passed over by one keel. Happy he to whom the gods may give such a task! For me, it is enough to tell the virtues and the use of one tree alone—in what manner it was discovered and how it came to our lands, a visitor, passing through such sea-waves.⁵

In the vast ocean under the burning constellation of Cancer where the sun hides himself during our midnight, lies an island heretofore unknown, narrow and long: the discoverers gave it the name, Hispania—a land rich in gold but richer by far in one tree—the natives call it Hyacum. The tree itself is smooth⁶ and tall, from its lofty summit it spreads around an evergreen top and foliage ever luxurious with arbutus-like leaves: the nut, small but acrid, hangs down from the branches and

clings to the fronds in great abundance. The wood is hard and in its resistance almost matching hard iron; heated, it sweats a tenacious resin. The color of it when cut is not uniform: in the outer bark reigns the softness of the laurel, another part has the pale color of the box and the interior is somewhat brown⁷ with black, between walnut⁸ and ebony: if red were found in it, it would equal the rainbow in variegated colors⁹.

The native people cultivate it and try to develop it by careful study—here, wide hills and open lands, there, every field is covered by it—nor with them is anything more sacred or in greater use—and, indeed, in it lies every hope against this plague which in that land by Heaven's decree is perpetual.

With great force, they bruise the strong branches after removing the bark or file them into minute segments—the filings¹⁰ are left in pure water while the fluid macerates them, absorbing, day and night—then they heat: and unwearied care is taken lest the force of the water should break out in an explosion and so project the floating scum into the fire. They anoint with this scum, if anyone has abscesses¹¹ over his body or if anyone has his infected limbs eaten into. Boiled down to one half, what remains of the divine fluid they put away: the chips which are left they boil again as before and adding sweet liquid honey. The law of the land itself commands and the priest orders this to be the only drink at meals: they take twice a day the liquor which had been kept, cups of the first decoction—when the sun rises and later when the evening makes her exit from Olympus. Not sooner do they desist from this drink than the moon has run her course and wandering has completed one revolution and, straining forward, has again joined the chariot of her brother¹².

In the meantime, they seclude themselves in the inner part of their dwellings, where neither the force of the wind nor any breath of air can insinuate itself and cold breezes are kept out. What is wonderful and memorable over everything else is what slender diet, what great fasts they demand—of course, indeed, it is usually enough so long as the body is nourished, so long as life continues and the members do not fail. But do not, oh! do not fear such results. That sacred drink in and by itself, after the manner of ambrosia, renews and nourishes the strength¹³ and carries occult food to the fasting members.

After drinking this nectar, they for two hours, no more, cover themselves with bedclothes, so that the medicine may go far in and draw the sweat from the heated body.

In this course, the plague vanishes into the empty air, and (marvellous to relate) now no pustule appears, now all the ulcers¹⁴ have ceased, now pain has left the strong limbs and youth returns in the

earliest bloom—and now a new moon, taking up again its course, circuits its revolution.

What god showed to these peoples, these practices which at length Chance or the Fates brought to us, I shall now relate.

Ships¹⁶ sent to seek the hidden seas of Nereus¹⁶ went in the mighty ocean into the setting and resting place of the sun, the shores of father-land and Calpe¹⁷ left far behind, and plowed the waves, ignorant of the way and wandering far from it. Around them swam countless wet Nereids hastening from every depth, novel marvels of an unknown sea, wondering at the lofty ships flying over the salt seawaves with painted sails.

It was night and the moon was shining from the pure ether, diffusing her light over the waters of the tremulous sea, when the high-souled hero chosen by the Fates for so great a task, the leader of the wandering fleet through the ocean blue, spake: "O Moon! O thou to whom the watery kingdoms of the sea belong, who hast twice curved thine horns on golden forehead, twice has filled the curve while no other land has appeared to us, grant us at length to see land and at last to reach hoped-for ports, O thou glory of the night, thou Latonian virgin, pride of the sky!"¹⁸. Phoebe heard the prayer and gliding from the lofty ether, changed herself into the form such as the Nereid Cymothea and Clotho swam in: she took her station beside the ship and, swimming above the waves, she at the same time said: "Have no fear, my ships, tomorrow's light will show land and will grant to arrive at a sure port—but stop not at the first shores, for the Fates call you onward. In the middle of the sea lies a large island, Ophyre¹⁹: to that place be your course, that is the proper seat and head of dominion". As soon as she had said this, she pushed the ship onward: it rapidly cuts the waves in its light course, favorable breezes blow and now rises Titan²⁰ clear from the water, when far off rise low hills covered with trees: and now, nearer the land begins to be visible. The sailors cheer and salute the land, the land long hoped for. Then kindly received by port and shore, they pay their vows on the shore to the pious gods—they care for their shaken ships and their wearied bodies.

Then when it was the fourth day from sea and a brisk south wind²¹ filled the sails, there is rising to the oars, they again attack the high seas and joyful plow the blue waters: Anthylia, floating in the uncertain sea, is left behind, and Hagia and lofty Ammerie and the accursed land of the Cannibals and wooded Gyane with its vendant shore²². Continually innumerable islands are opened in the vast ocean to the lofty ships, among which they espy one waving with dense forests and resonant with a run-

ning stream which, foaming in its mighty bed, carries to the sea, sands resplendent with gold.

Into the mouth of this river, it is decided to draw the ships aground: the groves are inviting and sweet water from the stream. Now springing on the verdant soil and taking possession of the shore, they first salute the unknown land and native Nymphs and the Genius Loci and thee, O gold-bearing stream! who glidest into the mouth of the sea with shining wave. Then hard bread and cups of wine from home, they hasten to heap on the grass ²³—then to seek if there are inhabitants: part to admire the yellow wave of the river and investigate the sand mixed with gold.

It chanced that many birds were continually flying through the shady branches, which painted blue in their brilliant wings set off by a reddish beak, went unharmed through their native grove. These the bands of youth saw everywhere through the lofty trees, and seized those hollow metals frightening with terrific roar, weapons imitating the firebearing thunderbolt—thy discovery, O Vulcan! as thou bringest to mortals, Teutonic arms, the darts of Jove²⁴.

There was no delay; each one, picking out a certain bird for himself, set fire to the pent-up substance, charcoal of willows and sulphur and nitre, making use of the spark kept in a cord. Spread by this fire caught, immediately the fiery force rages at its bonds and at once, the barrier broken, it swift drives the intruded bullet—this flies through the air shrieking—and everywhere throughout the meadows lay fallen the slaughtered birds. The air shone with fires along with a roar by which the whole wood and curved shores and waters struck to the lowest depth resounded²⁵.

Some of the birds terrified betake themselves to the dense wood and lofty rocks, from the highest peak of which one (marvellous to relate) sings a horrifying song and fills the ears with terrorizing words and begins thus:

“Ye who have violated the birds of the Sun, the sacred birds, ye Spaniards²⁶, now listen ye to what the mighty Apollo sings and what he sends to you by our voice—ye, although unknowing, have at length reached the long sought shores of Ophyre by favoring winds; but it will not be given you to conquer new lands and peoples, to be quiet in long leisure, and to build cities and initiate sacred rites and worship, before you, worn out by nameless toils of sea and land, after many battles with men, in multitudes pile up dead bodies in a foreign land—others will in vain enquire for friends after having recrossed the mighty sea. Nor in our hemisphere will there be wanting Cyclopes. Discord itself

will drag your ships into internece fury and sword: nor is that date remote when, with bodies foul from an unknown disease, you will seek help from this very wood until you repent of your misdeeds"²⁷.

Saying no more, shrieking horror, it hid itself in the dense shades.

A sudden rigor runs through their bones and everyone pales and the blood chilled deserts the face—then, in truth, supplicating the sacred birds and the gods—the Sun, first of all—they show reverence in votive offerings to the native deities guarding the sacred grove—they pray for-giveness and, once again, salute Ophyre and the stream.

Now from the wood came running to the ships a new and unarmed crowd of men, the kind who are black of face and hair: all with naked breast, all covered with peace-bearing boughs, who wondered so much at the lofty ships in such a mass, and the clothing of the men and the shining armor that they scarce could gaze their fill; and whether the strangers might be men or heroes or manifestations of the gods, they saluted them with adoring rites and prayers. Before the rest was the King himself for whom they carried happy offerings, gold gathered from the shores and gifts of the harvest and native fruits and liquid honey. They, presented with our garments—many a gift made and received by us—mingled new joys with wine.

Not otherwise than if some mortal admitted to the tables and banquets of the gods, about to be blessed, should drink celestial cups, eternal nectar.

So when they had made their minds secure by mutual compact of friendship and had established the usual intercourse of nations, the Kings themselves rejoicing joined hands on the shore and confirmed the treaty—the one clad, chest and thigh, in thin cotton, black in face and with diadem of sparkling green emerald, his right hand is armed with a sharp javelin, his left bears the spoils from the scaly dragon. The other wearing his war cloak with interwoven gold under which shines red armor, on his head sits a lofty casque and painted crests fly from its summit: torques of shining gold surround his white neck and a Spanish sword hangs by his side.

And now the people, mingled and received in hospitality, these in houses and homes, those in the lofty ships, pass the days in joy and games and wine.

It chanced that it was a festal day in the place and they were preparing to make the annual sacrifices to the Sun the Avenger, in the sacred grove. The whole body, Spaniard and Ophyrian, gathered together. Here in a hollow cave on the grass of the verdant shore, stood waiting a vast number of sinners, matrons and men mingled, common

people and aristocracy, children and fathers, depressed in mind and foul in body, all filthy with ulcers and flowing with corruption. Around these all mingled together, the priest in white robe is sprinkling pure water with a branch of luxuriant Hyacum²⁸. Then he, according to custom, immolates before the altar a snowy young bull and sprinkles a shepherd placed nearby, with the blood of the victim from a shallow dish: he sings in numbers, paeans to the mighty Sun; the rest of the people follow, and they sacrifice swine and they sacrifice sheep and they feast on the grass on the viscera toasted on the spit.

The people from Europe were stupefied at the rites of worship and the disease they had seen at no other time: and their leader, having in quiet turned over much in his mind, said:—

“This is the disease (may the gods avert it striking us!) which, unknown as it was to us, the dire interpreter of Phoebus was singing.”

Then he inquired of the native King (for they had now acquired the power of understanding each other's language)²⁹, for which of the gods these solemn rites were held, why that unhappy band was standing waiting in the great valley, why the shepherd at the altar amid the services was sprinkled with the blood of the sacrificed bull? In answer, says the King:

“O most valiant hero of Spanish birth, these are national rites, these sacred services we perform as a custom every year to the god, the Avenger. The origin is ancient—the old fathers of our fathers performed them—if, however, it pleases you to hear the customs of foreigners and the afflictions of men, I shall disclose from the primeval beginning the reason for these rites and the origin of this unhappy plague.

Perchance there has come to your ears the name of Atlas and of the race derived from him in long descent³⁰; here, too, we, sprung from him as an ancestor in a long series, mention his name—Atlas. In olden days our nation was happy and beloved of the gods when our pious forefathers were accustomed to worship Heaven and to acknowledge the gifts of the gods: but, afterwards, contemning the shrines, there began luxury and pride in their descendants from which, what and how many afflictions flow to the miserable people, I should hardly be able ever to tell. At that time the Island called from the name of the first King, Atlantia, shaken by a tremendous earthquake, was destroyed, overwhelmed by the ocean which many thousands plowed with their keels, Queen of land and sea. Thus perished herds and tremendous bodies of four-footed animals, forever, not to be replaced at any time: foreign victims were slain in our sacrifices, foreign blood stained our altars—at that time, too, this unmentionable disease which you have seen eating our bodies,

which no one or at least few of us escape, sent from heaven by the anger of Apollo and the offended gods, marched into all the cities. Wherefore our fathers in the first place instituted these sacred celebrations with a new rite—and the origin is thus explained.

The story goes that Syphilus³¹, a shepherd, was feeding, by these streams, a thousand cattle and a thousand snowy sheep for the table of the King Alcithous³⁴: it chanced that the Dog-star was in the very solstice burning the thirsty fields: he was burning the groves, and the woods offered no shade to the shepherds; the air gave no relief—the shepherd pitying his flock and irritated by the burning heat, raising his face to the lofty Sun and his rays, cries: 'Now, why do we call you, O Sun, the father of things and god? and, a foolish people, why do we erect sacred altars and venerate you with bull slain and rich incense when you have no care for us nor do the sufferings of the royal herds touch you? It seems to me that you gods are rather burning with envy: with me are feeding a thousand heifers of the color of snow, a thousand sheep—you have hardly a single Bull, hardly a single Ram³³ in the heavens (if they say true), and one measly Dog is the guardian of such a herd! Fool that I am! I should rather pay divine honors to the King to whom so many fields, so many people, so broad a sea, minister—and whose might is greater than gods or Sun: he will give cool breezes and bring the grateful chill of living trees to the flocks and he will alleviate the heat'.

So saying—no delay—he set up a sacred altar and offered divine honors to King Alcithous in the mountains. Him, a number of the countrymen, him, another crowd of shepherds follow—they give incense to the altar-fires, they sacrifice with the blood of bulls, and the smoking viscera stream.

When afterwards, the King, seated on the throne and his subject peoples and flattering crowd, heard this, rejoicing in divine honor given him, he ordered that no other deity should be worshipped on earth, under penalty of his vengeance, that no one should be held greater than himself in his land—that the gods inhabited the sky, but what was below did not belong to them.

This, he saw who sees everything, who watches everything, the Sun, the Father—and, raging inwardly, he twisted his rays so as to be harmful and shone with a malign light. On this occurring, Mother Earth and the waters of the sea were affected and the air became heated by the force: at once, an unknown foulness arises in the blasphemous land. First of all, Syphilus who has instituted divine honors to the King and set up an altar in the mountains shows foul pustules³⁴ over his

body, he first experiences sleepless nights and convulsed members—and from the first to be attacked the disease drew its name, *Syphilis*³⁶, which the country folk called it after him—and now the evil plague was diffused generally through all the cities nor did the dire disease spare the King himself.

He went to the Nymph Ammerice in the Carthesian forest³⁶, the denizen of the groves, who was the chief interpreter of the responses of the gods in that glade. They asked her what was the cause, what the cure of the disease. She answered: 'You, O you—the despised shrines of the Sun are afflicting you—it is right for no mortal to equal himself to the gods³⁷: give incense to the god and perform its rites and placate the shrine and he may carry his wrath no further. The plague he brought is eternal and now will never be revocable—whatever is born in this land will feel it—he has sworn it by the Stygian Lakes and dire Fate³⁸. But yet if now you seek a certain cure, sacrifice a snowy heifer to mighty Juno, slay a black heifer to the Earth—she will give happy seeds from above: she will evolve from a fortunate seed, a green tree from which salvation cometh'.

She was silent; and, at once, the cave within and the whole wood were shaken and horror surrounded on every side.

They obeyed the commands: they raised his altars to the Sun, they sacrificed to mighty Juno a snowy heifer, to thee, O Earth! a black heifer.

I am now to adduce marvels (but I call to witness its truth the gods and the monuments of my fathers)—these sacred things, this tree which you see throughout this whole wood and which had never before been known in this land, begins forthwith to send forth green shoots from the ground and to grow in the fields to a goodly tree: at once, the priest sings new sacred rites to be annually observed to the Sun, the Avenger. On lots drawn, *Syphilis* himself is chosen who, one for all, is to fall at the altar—and now he was standing with sacred meal and fillets all prepared about to dye the sacrificial knife with purple blood. Our teacher, Juno, forbade and the now placated Apollo—who, commiserating the chastened soul, before the death stroke substituted a young bull and so moistened the soil with brute blood only. And so that an eternal memorial of this might remain, the ancients first instituted the annual custom of these sacred rites—and the shepherd led to the sacred altars, a pretended victim, he bears witness to thy crime, O *Syphilis*. All that helpless and pitiful crowd whom thou seest are touched by the god and expiate the sins of their ancestors of old—for whom, the priest conciliates the gods and the anger of Apollo with vows and sacrifices and

pious prayers. Being purified, they carry great branches and limbs of the sacred tree into their houses, by a libation of which and its marvellous power, they drive out the contagion of this unspeakable disease".

In such discourse and in others of different character, the mingled people from separate parts of the globe passed the time.

In the meantime, the ships which had been sent back to the beloved shores of Europe, now having recrossed the sea, bring wondrous tidings —far (alas! the hidden decrees of the gods) had this same contagion spread under the sky of Europe and the astounded cities had found no remedy. And, indeed, a more serious rumor ran through all the ships —that the fleet itself was infected by the same disease, and no small number of the young men had been seized and had shown disease in every member. They then remembered what the direful birds had sung, that help would be asked from that very wood. Having invoked the Sun, they prepared to carry branches and trunks of the virgin tree from the lofty glade, and they made medicinal liquid according to the custom of the country by the help of which at length they drove away the raging contagion. Mindful of their country, they direct to be brought to our shores, this happy tree if perchance they may thereby expel a contagion similar to that under their present sky. Nor did the Fates deny favoring Zephyrs; and Apollo was found favorable.

You, ye Spaniards, first received these gifts of the gods, admiring a very present help—now it is known to the French and the Germans and to the Scythians and to the Latin world, rejoicing—now is Hyacus carried into every part of Europe.

All hail, mighty tree! planted by the hand of the gods from sacred seed, beautiful in foliage, glorious in new virtues, hope of humanity, pride and new glory of the outer world—too fortunate were we, if the Fates had been willing to cause thee, born on this hemisphere, to grow here in perpetual wood, among men and the race of the gods.

Thyself shalt know if in any degree and where, the Muses can cause thee to be carried by means of the words of men, and thou shalt be sung even in our clime. If Bactria and the furthest land under the Northern Pole, and Meroe and Ammon burned by Libyan sands shall hear not of thee, at least Latium and the shore by the streams of verdant Benacus and the gentle recesses by gliding Athesis, shall. And it will suffice if in the interval, Bembo reads of thee by the wave of Tiberflood and mentions thy names.

NOTES

¹The Straits of Gibraltar.

²Urania, goddess of Astronomy and Astrology. She is to play now a new rôle and being in another Faculty, must wear the proper garb, including the hood.

³Of course the voyage of Columbus is in view but his name is never mentioned. Arctos is the Bear—by metonymy, often the Pole.

⁴Hispania, Spain, gave the name Hispaniola, (literally "Little Spain") to Hayti, Grenada to New Grenada, etc., etc.

⁵Guaiacum, the virtues of which are sung in this Book.

⁶This may mean cylindrical—"teres".

⁷"Subfuscus". The word is found only once in Classical Latin. Tacitus, *Agricola*, 12, speaks of a pearl as being "subfuscus", dusky, somewhat brown.

⁸The Venetian and French Texts have "Inglandem"—Stoer and Peters, the correct "Iuglandem".

⁹The Iris of Fracastorius is generally the Iris Germanica, I. Florentina (which produces Orris-root) or I. pallida. Here, however, the rainbow is meant.

¹⁰"Scobes" is chips or filings or any comminuted particles.

¹¹The word I translate "scum" is spuma, froth, scum, etc., the supernatant substance on top of liquid.

"If anyone has abscesses"—"si quicquam e corpore toto, abscedit"—medical Latin use of "abscedo" frequently to be found in Celsus. E.g., in his *De Re Medica*, 2, 7, he says: "Si mulier a partu vehementes dolores habet, neque alia praeterea signa mala sunt, circa vicesimum diem aut sanguis nares erumpet aut in inferioribus partibus abscedet"—If a woman suffer severe pains from parturition and there are no other bad symptoms, about the twentieth day she will have bleeding at the nose or abscesses in the lower parts.

¹²Her brother the Sun—the moon catches up to his chariot at the new moon.

¹³The ambrosia, the nectar of the gods, was both food and drink. Guaiacum was believed to have almost the same quality—all authorities were agreed that the more restricted the diet the better and more speedy the cure.

¹⁴The celebrated Ulrich von Hutton in his *De Guaiaci Medicinâ et Morbo Gallico, liber unus*, Moguntiae, 1519, says: "With guaiacum and severe diet, one afflicted with the Morbus Gallicus is infallibly cured. And he should know, he was afflicted more than once, himself.

¹⁵The expedition of Columbus, 1492.

¹⁶Nereus, the son of Oceanus and Tethys, a sea-god, husband of Doris and father of the Nereids or Sea Nymphs.

¹⁷Calpe, one of the pillars of Hercules, now Gibraltar.

¹⁸Luna was often identified with Phoebe, Diana, or Artemis the sister of Phoebus or Apollo, the Sungod. Latona or Leto had two children to Jove, Apollo and Artemis.

¹⁹Ophyre or Ophire, a name no doubt derived from Ophir—and apparently intended to indicate one of the Antilles.

²⁰The Titan this time is Phoebus, Apollo, the Sun.

²¹The French translators make the wind a Zephyr; but the Zephyr was a west wind, while this is called Notus, the south wind.

²²A conscious imitation of Vergil: *Aeneid XII*, "Hagia" is Greek for "holy": "Ammerica" is plainly America: Gyane has some resemblance to Guiana: the Cannibals were the Caribs.

²³"Duram Cererem et patrii carchesia Bacchi".

²⁴A very poetic description of firelock arquebuses—revealed by Vulcan to the Germans.

The slow fire in the "meche" or sulphured cord is elegantly described.

²⁵The description of the effect of the slow match on the powder, of the powder on the bullet ("glans," nut, acorn, the poet calls it) and the bullets on the birds is amusing—and clever.

²⁶"Hesperi", literally westerners—poetically Italians or more generally Spaniards.

²⁷An obvious imitation of Homer's *Odyssey I*, vv. 7-9: XI, vv. 112-113: XII, vv. 137-141. Ulysses was warned not to interfere with the herd of the Sun on the Island of Thrinakia, which never increased or diminished, for, said the Sun-god: "If thou hurtest them, I tell thee in advance there will be ruin for thy ship and for thy men"—the men refrained from touching the herd till "hunger gnawed at their belly" and then slaughtered the best of them and ate the flesh while Ulysses slept. All dismally perished but Ulysses, *Odyssey XII*, vv. 405-453. The seven herds of the King-god of 50 each "who increased not nor diminished" were indentified as the 350 days of the aboriginal year. Of course the disease to come upon the Spaniards was Syphilis to be cured by Guaiacum from that wood.

²⁸Fracastorius' name for Guaiacum. Guaiacum is said to have been introduced into Italy in 1517: Ulrich von Hutton had called it a divine gift in his *De Guaiaci Medicina et Morbo Gallico liber unus*, Moguntiae, 1519 (Fracastorius calls it Hyacus and Huyacus). Thomas Paynell's (Chaplain to Henry VIII) translation of von Hutton's work, 1533, contains the first mention of this medicinal wood in English—the distinction between the *guaiacum officinale* and the *guaiacum sacrum* came much later.

²⁹Quick work, surely.

³⁰Plato's account of Atlantis in his *Critias* and *Timaeus* is well-known.

³¹For the significance of this name see my Article in the *New York Medical Journal* for May 4, 1921: it is sufficient here to say that the name almost certainly is taken from Sipylus, one of the sons of Niobe.

³²See the same article—in my opinion the name is taken from Alcithoe, the Nymph in Ovid: *Metamorphoses*, I, vv. 1-4.

At non Alcithoe Minyeias orgia censem
Accipienda Dei: sed adhuc temeraria Bacchum
Progeniem negat esse Jovis: sociasque sorores
Impietatis habet".

But Alcithoe, daughter of Minyas, refused to join in the orgies of the god (Bacchus)—she rashly denied that Bacchus was the child of Jove; and she had sisters companions in impiety.

They were changed into bats!

³³Of course the constellations Aries and Taurus and the Dog star, Sirius.

³⁴Fracastorius had no idea of the significance of the primary lesion, the chancre, (although de Vigo described it minutely and accurately) and he considered the secondary symptoms, the first.

²⁵Dr. Franz Boll of Heidelberg who first gave the world the true origin of the word Syphilis thinks "that at first Fracastoro intended to call his work, *Syphilis*, i.e., 'the story of Syphilus' on the analogy of *Aeneis*, the story of *Aeneas*, *Achilleis*, the story of *Achilles*, *Thebais*, etc., that having written the title *Syphilidis seu "Morbi Gallici libri tres*, the very conjunction of the two genitives induced him to make one the equivalent of the other and thereby name the disease itself *Syphilis*."

Dr. Boll first published as an article, *Der Ursprung des Wortes Syphilis: Eine Quellenuntersuchung* in the Magazine, *Neu Jahrbuecher fuer das Klassische Alterthum Geschichtte* for 1910, pp. 72-77, and a second article, *Zum Urprung des Wortes Syphilis*, in the same volume, p. 168.

²⁶Nymph and Forest equally unknown.

²⁷Remember Herod's fate.

²⁸Such oaths Jove himself could not break.

The Seymour Plan

By DR. M. M. SEYMOUR, *Deputy Minister of Health for Saskatchewan.*

In my presidential address at Atlantic City, last May, at the Conference of State and Provincial Health Authorities of North America, among other things I said, "authorities tell us that from 45-60 per cent. of all disabling sickness is of external origin and therefore preventable. It is estimated that from 2-3 per cent. of the total population of the country is constantly ill. Of this number it may be safely said that 2 per cent. are sufficiently ill to be disabled. From this it may be estimated that about two and a half million people are suffering all the time from disabling sickness in North America." I call attention particularly to three communicable diseases, namely, Smallpox, Diphtheria, and Typhoid fever.

In the report of the Surgeon-General of the United States Public Health Service for 1924 it was stated, "that Smallpox was the most widely distributed plague in the world and that approximately one-fifth of all the cases of Smallpox reported in the world in 1923 and 1924 occurred in the United States."

Conditions in Canada so far as Smallpox is concerned are very similar to the United States.

In an outbreak of Smallpox which took place in Windsor a little over two years ago there were 67 cases in Windsor and other Border towns, from which there were 32 deaths. All deaths occurred in unvaccinated persons. The mortality among unvaccinated persons in this outbreak was 71 per cent. The epidemic cost the Windsor tax-payers \$35,000.00, and by the vaccination of 50,000 people the outbreak was completely stopped in two weeks. No one died of the disease who had ever been vaccinated.

During the months of January and February, March and April of this year there were 150 deaths reported from Smallpox in the State of California, 108 deaths of which took place in the City of Los Angeles. In commenting upon this enormous death-rate the weekly Bulletin of the State Board of Health of California, dated March 20th, 1926, says, "that in addition to the number of persons who needlessly sacrificed their

lives to smallpox that at least 1,400 Californians suffered extreme physical discomfort that the severe type of Smallpox always brings."

This sort of report goes to show that there must be a great many Christian Scientists, Anti-vivisectionists, anti-vaccinationists, osteopaths, chiropractors and others of that ilk in the great State of California. The State of California had a very serious outbreak of Smallpox last winter.

The prevention of such outbreaks of Smallpox causing so many deaths and so much illness is vaccination. With the present day rapid methods of transportation and extended travel without vaccination Smallpox would be the disseminator of the race to such an extent that the advocates of birth control would be put out of business.

VACCINATION

The best time to be vaccinated is during the first year of life, preferably during the first two months. If done then immunization is secured with the least decree of disturbance either local or general than is the case when done later in life. It is important that the medical profession be informed that there are better methods of doing vaccination than were taught years ago. The now old, but still widely used, method of vaccination was to scarify one to four areas on the arm with some sharp instrument, then apply and rub in the Smallpox vaccine. These large, raw areas of devitalized tissue easily became infected from germs on the surrounding skin or clothes, resulting sometimes in sore arms. It is well to call the attention of the medical profession, as well as the general public, to the fact that these severe reactions are not due to the vaccination but to bacteria infection.

By use of the following method of vaccination, which has proven satisfactory from an immunizing standpoint, not only can the severe reactions be done away with, but a great deal of the fear the public have of vaccination can be quieted.

Method of Vaccination: The outer surface of the arm near the insertion of the deltoid muscle is cleansed with soap and water, ether or alcohol, a drop of the vaccine virus is dropped on the cleansed surface, and a needle held parallel with the arm is pushed through the virus in the skin for about one-eighth of an inch, this is repeated twice, no blood is drawn as the true skin is not pierced. No shield or pad should be used at any time. A piece of sterile gauze, to be changed daily, may be fastened to the seam of the shirt and allowed to fall loosely off the vaccination.

Well within the marks in 1923 there were in the countries represented by this Conference 150,000 cases of diphtheria with 12,000 deaths.

TYPHOID FEVER

In North America there were reported in the year 1924, 30,000 cases of typhoid fever and 6,000 deaths. During the South African War there were 30 deaths from typhoid fever for every death from casualty: Typhoid fever was practically unknown in the recent Great War, due to improved sanitation and preventive inoculation.

Typhoid fever is also one of the diseases that is communicable and preventable.

I think with the above facts there are justifications of my calling attention to the Conference that we wish to justify the retention of our name of Health Authorities of North America. It was necessary to do something to change this condition of affairs.

I recommended that two months of the year be devoted to generally educating the public of the fact that diphtheria, smallpox and typhoid fever were both communicable and preventable. I said that if this recommendation was adopted by the Conference that I would appoint each member of the Conference a committee to take charge of plans in his own state, province or territory, he to report back to the next meeting of the Conference next year. My recommendation was that he would devote the months of September and October this year to dealing with Diphtheria, November and December, Smallpox, and January and February, Typhoid fever, and that the co-operation of all health authorities, both official and voluntary, be secured, and that an effort be made to enlist the co-operation of the general medical profession, the different churches, the press, the educational authorities and all other organizations which could be of any assistance in educating the public to the fact that these diseases are communicable and preventable. My recommendations were thoroughly endorsed, approved of, and I was honored by the Conference voting that this recommendation be not only adopted, but that the plan recommended be known as the Seymour plan.

The officials of the Conference have taken the matter up with the United States Public Health Service, the International Health Board, the American Medical Association and the Canadian Medical Association, all of which organizations have very thoroughly endorsed and approved of this method of combating these diseases. The executive committee of the conference has taken charge of the directing of the plan in the United States and the Department of Health of Canada has taken charge of the directing of the plan as far as Canada is concerned.

It may be of interest to know the methods which have been adopted in the Province of Saskatchewan in carrying this plan into effect.

First the approval of the Minister of Public Health was secured, then the co-operation and approval of the Department of Education was secured. The matter was then brought before the annual meeting of the Saskatchewan Medical Association, which body very heartily endorsed the plan, after which general publicity was given to the plan by the press of the Province. A letter was written to the heads of each of the religious organizations, outlining the details of the plan and asking their support as well as a list of their clergy. All of the churches have heartily endorsed this life-saving measure and have sent a list of the different clergy. A letter was then written to each clergyman in the Province sending them a copy of the endorsement which had been received from his superior as well as some facts regarding Diphtheria, asking him to refer to this disease in his church on Sunday, which they agreed to do. So that from every pulpit in Saskatchewan there will be an appeal made to the people to have their children safeguarded against diphtheria by vaccination.

The Department of Education sent a letter which was supplied by the Department of Health to each teacher in the Province asking them to tell their pupils about Diphtheria, and at the same time asking the pupils to tell their parents about this disease and how it can be prevented.

The Municipal Councils of each municipality of the Province were written to and asked to make arrangements with their Medical Health Officer and their physicians to have all the pupils in the different schools in the different municipalities vaccinated against diphtheria and smallpox, and this work is now being done.

It has been pointed out that 75 per cent. of all diphtheria occurs in children of the pre-school age, and a special appeal has been made to physicians advising having these young children protected against the disease.

The assistance of the different Home Makers' Club has been secured. They are arranging for vaccination of these young children.

The Department supplied the toxoid necessary for vaccinating against diphtheria, as well as smallpox virus for vaccinating against smallpox. It also supplied the Schick test.

The Commissioner of Publicity in Saskatchewan sends an article to all the papers once a week on this subject, which is supplied by the Department of Health, so that each newspaper has a special article each week.

Nova Scotia Tuberculosis Commission

THIS outlines the programme which will be adopted by the Nova Scotia Tuberculosis Commission in its efforts at Tuberculosis Control in the Province. It indicates what may be considered the immediate steps which must be taken. As the work progresses it must be supplemented in accordance with changing conditions or the ability of the Commission to enter new fields of endeavour.

I. CO-OPERATION WITH ORGANIZATIONS WHOSE AIM IS DIRECTED TOWARDS TUBERCULOSIS CONTROL

A. Where organizations are already in existence, such co-operation and assistance as the Commission can give will be made available to them. This assistance will take the form of:

1. Provision of clinic service, if required.
2. Such nursing or follow-up work as may be possible.
3. Financial assistance, limited by the Commission's ability to provide the same.

B. Where no organization specifically intended to combat Tuberculosis is in existence, the Commission shall endeavour to bring about the formation of such organizations, or shall make all necessary arrangements with Women's Institutes, Red Cross Societies, or such organizations.

II. CONTINUOUS EFFORTS TO ENLIST IN THE INTERESTS OF THE NEEDY TUBERCULOUS, SUCH AGENCIES AS WILL SECURE FOR THEM ALL DESIRED TREATMENT

A. The passage of such additional legislation as will safeguard the municipalities or towns interested and at the same time make it possible that treatment be secured.

B. Such treatment may be in a Sanatorium, Hospital or other place, but shall be under conditions most likely to minimize the danger of the spread of the disease.

III. THE PROVISION OF SUCH A DIAGNOSTIC CLINIC SERVICE AS SHALL COVER THE PROVINCE ADEQUATELY

A. In so far as the City of Halifax is concerned, clinics now in existence meet the present needs.

B. The staff available for clinics outside the City of Halifax is,

1. Two examiners from the Department of the Public Health. These two shall make their headquarters at such places east or west of Halifax as promises to serve the Provincial needs best.

2. Two nurses employed for the Commission by the Canadian Tuberculosis Association. These two shall do such work in connection with preparation for clinics, reporting and follow-up clinic cases, as is necessary, confining their attention more especially to the counties or municipalities in which County Health Nurses are not at present employed.
3. When available, additional assistance in clinic work may be obtained from the Department of the Public Health, and from the County Health Services.

C. A schedule of clinics having been drawn up, every practising physician within the reach of the clinics will be notified in such time as will enable him to make provision for the attendance of any patient concerning whom he desires an opinion.

1. Cards, to be presented by the patients to the examiners, will be forwarded to all practising physicians.
2. Reports on the result of examination will be sent to the family physician.
3. These reports will indicate the advice of the examiner in respect to the disposal of the case.
4. A minute of such examination will be made for retention in the Clinic Records, and will be retained for study or statistical purposes.
5. The physician will be informed that the Commission, or County Nurse, will undertake such follow-up work as is possible, if he so requests.
6. X-Ray reports will be made whenever possible.

D. An effort will be made to have the Clinics held with such regularity that both physician and patient may keep the dates in mind.

E. Re-examination of patients discharged from the Nova Scotia Sanatorium will be arranged for at the Clinics.

F. Each examiner will be kept informed of the admissions to the Nova Scotia Sanatorium from his area, as well as of the discharge and return to his area of any patient who has been under treatment at the Sanatorium.

G. It should be the endeavour to have the following persons present themselves at the clinic for examination:

1. All persons advised to go there by their family physician.
2. Contacts of known tuberculosis cases.
3. Undernourished children discovered during school examinations.

IV. THE MAKING OF A TUBERCULOSIS SURVEY OF THE PROVINCE

A. Forms shall be prepared, and sent to all practising physicians, requesting information concerning tuberculosis cases in their fields of practice. These forms shall be prepared with a view to: (1) obtaining information respecting the patient himself, and his ability to secure the desired treatment, (2) safe-guarding the interests of those of the family or others exposed to the patient.

B. The Examiners and Nurses shall assist in the collection of the above lists, calling on all the practitioners in their respective areas, for this purpose.

C. From such lists shall be prepared card indexes of all tuberculous patients, with such information as it is necessary to note, both for the Commission's files in Halifax, and for the files of the Examiners.

D. Particular attention shall first be directed to the patients who have been reported to the Commission as being sources of danger to other members of the family.

E. It shall also be the endeavour to see, at specified intervals, all cases reported, so that progress notes may be made upon the records of each tuberculous case discovered by the survey.

V. INCREASE OF THE TREATMENT FACILITIES OF THE PROVINCE

A. Towards this end, the Local Hospitals shall be approached for the purpose of encouraging them to provide for some of the cases in their areas, by such addition to the bed capacity of their hospital as will supply the needs of the area, especially for the care of advanced cases of the disease.

B. The Commission shall, when necessary, also consider assisting cases by such means as the erection of sleeping porches or out-door shelters, in such places where this means of treatment is likely to be best suited to the needs of the case under consideration.

C. For the above purpose the Commission shall provide itself with plans or blue prints of Hospitals, sleeping porches or other structures the erection of which it may be necessary to encourage the building, together with such estimate of costs as may be of value to parties interested.

D. The Commission shall also use its efforts:

1. To secure the provision of more Sanatorium space, if this is considered essential.
2. To encourage the erection of preventoria.

3. To assist in the treatment of under-nourished children, likely to become victims of the disease.

E. The Commission shall endeavour to have made some arrangements for the supply of sputum cup or receptacle.

VI. THE COMMISSION SHALL ENDEAVOUR TO INCLUDE IN ITS CONTROL PROGRAMME, NOT ONLY THE CONTROL OF HUMAN TUBERCULOSIS BUT ALSO THE CONTROL OF BOVINE TUBERCULOSIS

A. The Commission shall interest itself in such Laboratory studies as promise to be of value.

B. The making of the Province a Restricted Area, in so far as Bovine Tuberculosis is concerned, shall be attempted.

VII. THE COMMISSION SHALL ALSO UNDERTAKE TO CARRY ON SUCH EDUCATIONAL WORK AS PROMISES TO BE EFFECTIVE

A. This will be directed towards the better protection of those exposed to the disease, or of the public generally.

B. It will be carried on by the publication of press or special articles; meetings held at any part of the Province, exhibits, pictures, or the use of any agency, or means by which a greater measure of tuberculosis control may be brought about.

Prepared by the Nova Scotia Tuberculosis Commission.

Prevention of Dental Disease and What We May Do to Insure Sound Teeth for the Children

By DR. E. A. GRANT,
Director, Dental Services, City of Toronto.

THE subject on which I wish to speak to you to-night is the prevention of dental disease, but more especially, to point out some of the measures we may take to insure sound, healthy teeth for our children. Decay of the teeth is perhaps the most prevalent disease of our time, as fully 97 per cent. of civilized people suffer from it at some time in their lives. It doesn't take much thinking for us to see the direct results of bad teeth. Impaired mastication and the poisoning of our food just as it enters the body, soon result in indigestion and malnutrition. But there is an even more serious side to the picture. Medical Research and the use of the X-Ray have conclusively proved that Dental disease may and very often does cause serious systemic disorders.

Dr. Charles Mayo, head of that famous Clinic at Rochester, Minn., said in an address only a few weeks ago, "The hardening of blood vessels, heart disease, some lesions of the brain and spinal cord, chronic kidney disease, recurring rheumatism of the joints and muscles, chronic diseases of the eye, and neuritis are some of the more common diseases which we now know to be due to infection. The greater percentage of such infection has its origin in the mouth. Small pyorrhæal pockets, and abscesses at the roots of dead teeth, all afford opportunities for infection, leading to an early break in health."

If Dr. Mayo is right, then dental disease is more closely linked up to this serious group of chronic diseases than any other cause, and the question of its prevention becomes one of primary importance, because good health is the most important thing in life.

Because they realize that good teeth are necessary for good health, and that dental infection is often the cause of these diseases of middle life which are carrying off so many people in their prime, that the Ontario Department of Health have arranged for this Dental Health Day, and Dr. Forbes Godfrey, the Minister, and Dr. Conboy, the Provincial Director of Dental Services, are to be congratulated on the many activities they have arranged in order to bring this important subject to the attention of every man, woman, and child in the Province.

An address delivered at a meeting held under the auspices of the Toronto Social Hygiene Club, at Hygeia House, Toronto, October 28, 1926.

Now it must not be assumed that because a tooth is infected that it must be extracted. Dental Science has developed to such an extent during the last fifty years, that in many cases many of these teeth may be treated, the infection overcome, and the tooth restored to a state of health. The Dental Machine can be likened to the delicate mechanism of a watch, every tooth a cog in the wheel. If a cog were broken off a wheel the watch could not function properly, and similarly, if a tooth is lost, the efficiency of the Dental Machine is impaired. The neighboring teeth move into the space, losing contact, and the opposing teeth elongate and become loosened.

Now the question arises, what can we do to prevent Dental disease? In the case of adults, we can do little or nothing to improve the structure of the teeth, but much can be done towards controlling the factors causing disease, and thus help to keep the mouth in a state of health. If, however, the infection cannot be overcome, the tooth must be removed, as infection cannot be permitted to remain, from the standpoint of general health.

Briefly stated, these measures are:—

1. A balanced diet.
2. Vigorous mastication of food.
3. Thorough cleansing of the teeth.
4. Regular dental inspection and care.

Even with a program like this, there are still not enough dentists in the world to care for all who would need treatment, and the best minds in the Dental Profession have been for years studying how dental disease can be still further reduced.

About fifteen years ago it was thought that the toothbrush was the most effective weapon and so the slogan was born, "A clean tooth never decays," but still dental disease went on apace and it was found that this slogan was only partly true. An absolutely clean tooth does not decay, but then it was practically impossible to attain this ideal result in the mouth.

Now we have come to the conclusion that diet is our most powerful preventive agent, but, in order for it to become effective, we must start very early in the life of the individual, so that the best conditions will prevail through the developmental period, and thus ensure good teeth. How early this developmental period is, I will endeavor to show with some of my slides.

What do we understand by a properly balanced diet? Well, it is one that contains the four different kinds of foods—Proteins, fats, carbohydrates and mineral salts in proper proportions. *Proteins* are the ani-

mal foods, meat, fish, fowl, etc. They are the tissue builders. *Carbohydrates* are the sugars and starchy foods such as cereals, bread, potatoes, etc. They furnish us with energy and together with the fats, supply body heat. The *Mineral Salts* are the salts of Calcium, Iron and Phosphorus. These are most important for the development of good teeth and also the bones. Because our teeth are composed almost entirely of these mineral salts, take enamel, the hardest substance in the body is 97%, and only 3% animal matter. Now these mineral salts are found in milk, fresh fruits, green vegetables and whole grain products.

In addition to all these there are certain mysterious substances called *vitamines*, which make all the difference in the world between healthy normal development and stunted growth and disease. Their function seems to be to aid in the absorption by the body of the mineral salts in our food.

I will not attempt to say exactly what particular foods you should eat in order to balance your diet, because this would vary with different people; age, sex, occupation are all factors to be taken into consideration, and what would be right for one individual might be entirely wrong for another, but in general, I would say that we eat too much meat as a rule, and certainly too much carbohydrate food. Canada, with 108 lbs. per capita a year, is the highest sugar consuming country in the world:—compare that with Italy, which consumes only about 14 lbs. per individual per year.

We do not eat enough of fresh fruits and green vegetables or drink enough milk. Milk should be stressed particularly for children, because it contains more Salts in a form that the child can use than does lime water. We all know that it is difficult to get young children to eat sufficient of green vegetables, and that is why health authorities say that a child should take a quart of milk a day. It is a difficult thing to get people to change their food habits, especially adults, but more can be accomplished with children, and if we are ever going to raise the standard we must improve their diet. A recent survey of Toronto school children showed that 25% were undernourished, and it was not because these children were underfed. They were not starved, but in many cases it may have been that their parents had not made a wise selection of foods. From the standpoint of Dental Health, we must eat less of carbohydrate food, because it is from the fermentation of these foods in the mouth that decay of the teeth is caused, and we must eat more of the foods rich in the mineral salts because not only do they provide the materials to build strong tooth structure, but these mineral salts will maintain the alkalinity of the saliva, so that it may effectively combat the acid process of tooth decay.

I am especially interested in this subject of children's diet, because of our experience in the School Dental Service. Toronto appointed a Dental Inspector of Schools in 1911, and was then the first city on the North American Continent to take such action. Under the sympathetic direction of Dr. Hastings this service has grown, until we now have thirty-one Dental Officers and twenty-eight clinics in the schools. A comparison of conditions to-day with those prevailing before the service was started, shows a great improvement has been effected. A survey made in 1911 showed 96% of children had defective teeth, and of these 50% had mouth conditions which were seriously affecting their health, 40% of school absences were due to toothache, and there was an average of seven to ten cavities per child. To-day the percentage is reduced to 62. The seriously diseased conditions have been almost wiped out and the average number of cavities has fallen to three. About 90,000 children are examined every year, and about 30,000 children have their dental treatment completed in the clinics, most of the remainder being cared for by the family dentist, so that, with it all, the School Child has a fairly well cared for mouth.

However, we are still finding the worst conditions in the Kindergarten Classes.

Sanitary Inspectors' Association of Canada

FOURTEENTH ANNUAL REPORT OF THE EXECUTIVE COUNCIL, YEAR ENDING JUNE 30, 1926

Winnipeg, Man., August 4th, 1926.

We have the pleasure to submit for the consideration of the members, this, the Fourteenth Annual Report of the Executive Council for the year ending June 30th, 1926.

The last Annual Convention was held in Winnipeg, Manitoba, on August 19th, 20th and 21st. There was an attendance of over 50 members and friends. The sessions were held in Parliament Buildings and we had the pleasure of being welcomed by His Honor Sir James Aikins, Lieut.-Governor for the Province. The papers, discussions and visits of inspection were enjoyed by all, especially as these covered most of the field of Public Health work. As usual, we wrote to almost every Provincial Government and City Council, asking that representatives be sent to the Convention. We regret, however, to state that with few exceptions, there was a marked indifference to our appeal. We believe it is both desirable and important that Inspectors engaged in Public Health work should have the opportunity of meeting together to discuss the problems met with in their work, and certainly such a system makes for greater efficiency and usefulness.

The following is a statement of our membership for the past two years:—

At June 30th, 1925, our membership was:

Ontario—Members, 6; Assoc. Members, 4; a total of 10.

Manitoba—Members, 24; Assoc. Members, 4; a total of 28.

Saskatchewan—Members, 16; Assoc. members, —; a total of 16.

Alberta—Members, 10; Assoc. Members, 2; a total of 12.

British Columbia—Members, 1; Assoc. Members, —; a total of 1.

A total of Members, 57; Assoc. Members, 10; a total of 67.

At June 30th, 1926, our membership was as under:

Ontario—Members, 7; Assoc. Members, 4; a total of 11.

Manitoba—Members, 26; Assoc. Members, 3; a total of 29.

Saskatchewan—Members, 7; Assoc. Members, —; a total of 7.

Alberta—Members, 8; Assoc. Members, 1; a total of 9.

British Columbia—Members, 14; Assoc. Members, 1; a total of 15.

A total of Members, 62; Assoc. Members, 9; a total of 71.

It will be seen from the above, that there is a total increase this year over last year of 4. We regret to have to report a decrease in the Province of Saskatchewan. Reference is made to this later. There is also a decrease of 3 in the Province of Alberta. The inability of members to attend our Annual Conventions is in some measure responsible for this condition, and of course the various Councils are to blame for not making it possible for them to be present. A more generous policy on the part of our City Councils in this respect would not only benefit the men but also the cities concerned and of course the Association as a whole. We wish to point out, once more, that if our Local Centres and Provincial Councils could be got to realize the benefit of meeting together as frequently as conditions will permit, the members would quickly come to see the value of the Association. We have not included in our membership those whose subscriptions are in arrears over a year, but we have included a number who have not yet paid this year's subscription. The decrease may therefore be even greater than that recorded.

Your Executive entered into a new arrangement with the Canadian Public Health Association by which this Association maintains fraternal relations with that body. Our Association is given representation on the Executive of the Canadian Public Health Association. We retain the use of the PUBLIC HEALTH JOURNAL as our official organ, and each of our members in good standing is to receive a copy of the journal monthly. The new arrangement is to the mutual advantage of the Canadian Public Health Association, which still retains us as members, and our members have the satisfaction of belonging to the Public Health Association, which should certainly be supported by all Public Health officials. On being asked to nominate our three representatives on the Canadian Public Health Association Executive, your Executive recommended Mr. L. Robertson of Vancouver, Mr. A. Rigby of Winnipeg, and Mr. R. H. Sanders of London, and they were duly elected to office by the Canadian Public Health Association. We trust that this action by your Executive will meet with approval.

Your Executive has been in touch with the New Zealand Sanitary Inspectors' Association, a very active organization. We get their Journal and congratulate them on the good reading matter found therein. We should try before long to start a Journal of our own. We feel sure that this might be done if only two good men could be found who would devote their time and ability to the enterprise,—one man for editor and another for business manager.

We have also had correspondence and exchanged fraternal greetings with the Sanitary Inspectors' Association of England. We subscribe to their Journal and derive much encouragement and information from its

columns. The English Association now has over 1,000 members. It is in a flourishing condition and has an excellent standing in Government circles.

At our last Convention a remit was recorded instructing your Executive to make inquiry as to the advisability of providing some means of affording Sanitary Inspectors a better opportunity of acquiring technical knowledge. Of course, to give effect to such an idea in as large a country as Canada would mean that in each Province one or more separate centres of instruction would have to be provided. In order to see what could be done in Manitoba, your Executive made some tentative plans for lecture courses, but before proceeding to make arrangements, made inquiries from the members of the Winnipeg Branch as to how many of the members would attend such a course if it were arranged. The response was not sufficiently encouraging and the matter was allowed to drop. We understand that some of the Ontario members are trying to arrange a course at Toronto University.

There are two ideas which should be kept in mind with regard to education of Sanitary Inspectors. First, the preliminary training to enable an Inspector to obtain sufficient technical knowledge to pass an examination and obtain a certificate, and secondly, the providing of opportunities for Inspectors already qualified to obtain further knowledge. As our Winnipeg members are all qualified as regards certificates, it was the higher branch of educational lectures which your Executive had in mind when discussing the matter. Both are important. In Winnipeg several large classes have studied and sat for examination under private tuition, and in many ways for this course, private tuition is best. But as Sanitary Inspectors should never be satisfied with the knowledge they already possess, but should always be ready to press on and keep themselves abreast of the rapid march in Health discoveries, this matter should not be dropped but rather kept in mind. First, we want all Inspectors qualified and then we need to keep up their interest in Sanitary Science. We leave the subject here for the present.

Your Executive have been greatly encouraged this year by the formation of a strong branch in the Province of British Columbia. There are now 15 members there. The Vice-President for British Columbia is Mr. L. Robertson of Vancouver. Both Mr. Robertson and Mr. Lancaster of Victoria have been privileged to attend the Annual Congress of the Royal Sanitary Institute in England this summer. We congratulate British Columbia on the energy displayed.

This report would not be complete without a reference to the newly-formed Health Officers' Association in the Province of Saskatchewan. When it was first mooted, your Executive addressed a circular letter to

each member in Saskatchewan pointing out that although the proposed new Association might prove to be a good thing for the cause of Public Health in that Province, we did not wish the members to sever their connection with our Association and we hope that this will not be the case. We may lose some of our members there temporarily, but we feel sure that eventually they will come back to the fold and help to build up this Association.

We would like to point out once more the advisability of more frequent meetings of the Local Centres and Provincial Branches. As stated in a previous report, our best work is not done in Annual Convention, but in these smaller groups. Once again we would urge that wherever a few members can be got together during the winter months meetings should be held. There is nothing that will keep the interest of the members alive in the Association so much as such meetings, and your Executive Council is better able to keep in close touch with the members.

It is with profound regret that we have to record the death of Mr. W. F. Thornley, Chief Sanitary Inspector for Hamilton, Ontario. Mr. Thornley was a member of this Association from its inception until the time of his death. He was President during the year 1917-18 and had at other times given good service on our Executive. Mr. Thornley had arranged to be present with us at last year's Annual Convention held in Winnipeg but took sick a few days previously and died on August 21st. Mr. Thornley will long be remembered for his genial personality and strong attachment to our Association.

We desire to express our sincere appreciation of the work done by the Presidents and Secretaries of the Local Centres and Provincial Branches, and all others who have in any way helped forward the work of the Association.

We also wish to record our thanks to Dr. Bates, Editor, and Miss Ferris, Secretary of the Public Health Journal, for their assistance to us during the year. We have received courteous treatment and been given ample space for our articles and news jottings.

The usual financial statement prepared by the Secretary-Treasurer and certified correct by the Auditors for the year, Messrs. F. C. Austin and H. H. Marshall, is attached hereto, from which it will be seen that there is a balance in the Bank and on hand amounting to two hundred and seventy dollars and forty-nine cents (\$270.49).

Respectfully submitted,

(Signed) E. W. J. HAGUE,
President.

(Signed) ALEXR. OFFICER,
Secretary-Treasurer.

THE SANITARY INSPECTORS' ASSOCIATION OF CANADA

Statement of Receipts and Disbursements, 1st July, 1925, to 30th June, 1926.

RECEIPTS

To : Balance in Bank and on hand, 30th June, 1925	By : Subscriptions to Canadian Public Health Association
Subscriptions	\$209.56
Interest on Bank account	350.00
	5.06
	<hr/>

DISBURSEMENTS

To : Subscriptions to Canadian Public Health Association	By : Subscriptions to Canadian Public Health Association
Printing	\$157.00
Mimeographing circular letters	24.93
Letter Book	6.04
Typewriting services	6.50
Honorarium to Secretary-Treasurer	2.50
Convention Expenses	50.00
Postages and sundries	12.32
	<hr/>
Balance in Bank and on hand	34.84
	<hr/>

\$564.62	<hr/>

We have examined the account of the Treasurer of the Sanitary Inspectors' Association of Canada, from 1st July, 1925, to 30th June, 1926; compared the Cash Book with the vouchers and instructions and found the whole correct; and we certify the foregoing to be a correct abstract.

Winnipeg, Manitoba.
July 30th, 1926.

(Signed) *FRED C. AUSTIN,
H. H. MARSHALL,
Auditors.*

ONTARIO BRANCH

Fort William, Ontario,
August 24th, 1926.

To the Executive Council,
Sanitary Inspectors' Association of Canada.

During the past year I am pleased to report, considerable interest among the Sanitary Inspectors of this Province in regard to our organization. Quite a few new members have been signed up and some former who had left the Association have again rejoined. While attending the Ontario Health Officers' Convention at Toronto I had a meeting called of all the Provincial Government Sanitary Inspectors and also several Inspectors in the vicinity of Toronto, notably Mr. Glover of Brantford and Mr. Cusack, Chief Sanitary Inspector of Toronto. At that meeting we had a general discussion in regard to the good and welfare of the Association, particularly that part bearing on its future. The feeling was general at that meeting that, taking into consideration the enforcements of our profession and the number of Sanitary Inspectors engaged in this country, especially in the Province of Ontario, that enough organization work was not being done. Several reasons were given for this, one in particular all agreed upon, was that enough interest could not be kept up with the headquarters in Manitoba, or for that part in any Province, and it was felt that a greater effort should be made along Provincial Association lines.

Promises were made in one city alone, that were there to be a Provincial Association, some twenty members would join. Were the Dominion headquarters to be moved to Ottawa or Toronto and all business done from there, the same state of affairs would exist, so that I wish to be understood that no criticism is being made towards our headquarters officials in Winnipeg.

I would like to have the opportunity at the coming Convention to outline a plan which, in my opinion, would strengthen our Association along the lines of making it stand for something more than an organization which holds a Convention once a year. I refer to the powers which we would have were our membership stronger in having legislation in regard to Public Health work over which our profession has supervision.

In the month of July I secured permission from the Deputy Minister of Health of Ontario for the purpose of addressing meetings of Sanitary Inspectors in Eastern Ontario with a view to interesting them in our Association. Owing to family sickness I was recalled home when I had

reached London. Owing to this regrettable incident I was unable to go to Hamilton, Ottawa, and Toronto, but have had letters from the different Chief Inspectors of these Cities informing me of their desire to affiliate with our organization.

I do not wish it to be thought that my reference to the formation of a Provincial Association is along secessional lines, but I do feel that the whole life of the Association depends upon some move whereby members in each Province will be able to attend a Convention in that Province. The question of the cost of running these Provincial Associations would be a matter that could be dealt with at the coming Convention and, given the opportunity, I intend to outline some scheme along those lines.

Thanking you, the Executive members and all others who co-operated with me in the past year.

I am, yours faithfully,

(Signed) W. C. MILLAR,

Vice-President for Ontario.

MANITOBA BRANCH

Winnipeg, Manitoba,

August 13th, 1926.

To the Executive Council,

Sanitary Inspectors' Association of Canada.

We hereby take pleasure in submitting the Annual Report of the Manitoba Branch of our Association for the years 1925-1926.

An excellent syllabus was prepared for the Winter months, and we hereby append a copy. A switch was made in the order of the dates owing to circumstances totally unforeseen, but the ultimate results were the same. The interesting lecture on Tuberculosis by Dr. D. A. Stewart, Medical Superintendent of Ninette Sanitorium, was eventually fixed for January 16th, 1926, and a splendid, well attended evening was spent. Figures are somewhat wearying when indulged in too freely, and they are sometimes misleading, but actual figures go to prove that some very excellent attendances were made during the lecture periods of the Branch. For instance—at the opening lecture on November 14th, 1925, there were 39 present, and 18 of these were ladies. The percentage of attendances during the whole series was 30.6 for the ladies and 69.4 for the men. The average attendance at all the meetings was 7.2 for the ladies and 16.4 for the men. The dividing line in maximum attendance seems to have come in the Christmas holidays—between December 19th, 1925, and January 9th, 1926, for the average attendance at the

1925 lectures was 30.7, while that of the whole season dropped to 25.6%.

The Manitoba Branch is doing good work but could do better. The attendance of the Provincial Nurses at our meetings is a splendid sign of progress, and it should be noted that the ladies were represented at every lecture on the syllabus.

The retiring Officers thank the members for the honor of service to the Branch during the past season and look for greater expansion and progress in the ensuing year.

Wishing the 1926 Convention unqualified success.

Yours in the work,

(Signed) JAS. ARKLE, *Vice-President*
DOUGLAS LITTLE, *Secretary.*

SASKATCHEWAN BRANCH

Prince Albert, Sask.,
August 23rd, 1926.

To the Chairman and members of the Sanitary
Inspectors' Association of Canada.

Gentlemen,

At your last Convention you honoured me in electing me Vice-President for the Province of Saskatchewan. Whether I have lived up to your expectations I am doubtful, but as I know so many of you personally, I feel assured that your judgment will be tempered with charity both for my sins of omission and commission.

You will remember that I was the only member present from the Province of Saskatchewan and no recommendation was made as regards a Vice-President for the year 1925-6. I had previously acted in that capacity for two years, 1922-4 and felt that the honour should be placed with others. You thought fit to again favour me with that position, and while I was very reluctant to accept it I have tried to do what I thought best in the interest of the Association.

After returning from Winnipeg, I visited the Regina members and had several discussions with most of them, and could not but come to the conclusion that almost all were indifferent to the Association, and it appeared that it would be almost impossible to revive any active interest in the Association. Before I left Regina I got three or four members to promise to have a meeting among themselves, and also Moose Jaw if possible, and try to make some effort to find out what was the cause and endeavour to bring this Province into full membership again. I informed them that I was quite willing to resign in favour of anyone they elected and that I was willing to assist them to the best of my

ability and would go to Regina at any time they called a meeting. I also called in Saskatoon, where they likewise were indifferent, and told them of the action taken in Regina. Mr. Appleton and Mr. Buck promised to think it over.

Sometime during October there was an informal meeting held in Regina, at which I was not present, but I was later informed that the suggestion was made that owing to the small number of Sanitary Inspectors in Saskatchewan it was hopeless to look forward to any material improvement, especially from the legislative point of view, for betterment of conditions, and asked if I would call a meeting to discuss suggestions to form a purely Saskatchewan Association of all health workers, to include every Medical Officer of Health whether part-time or whole-time, if actively engaged in Public Health work, by some municipality or other public body.

I thereupon sent a circular letter to each of the 22 Inspectors with outlined suggestions asking if they were in favour of it or not. I received replies from 18 in the affirmative. The Moose Jaw members withheld their reply until after a meeting was held, and they later were in support of it. It was made quite plain that it was not in opposition to your Association or even as an alternative, but to prevent the disbanding of the health workers into single or individual units, and as I have stated, some will continue to remain with you, myself included, being members of both organizations.

A meeting of the new organization will be held next month, and I trust that some arrangement may be made to affiliate with yours.

Personally, I am entirely in favour of supporting this Saskatchewan Organization, especially so as it embraces so many of our Medical Officers. I feel that while this Province has made a change, sooner or later it will embrace the whole of Canada. It may be that we are showing the way. As your Secretary stated, it will depend upon the loyalty of the members. It is for this reason that I am supporting it, as after all the Province one resides in is entitled to first consideration.

If it is your opinion that I have done wrong you have the right to say so.

I regret very much that I am unable to be with you, as I have always found the Conventions enjoyable and instructive, and I trust that your present one will be so to all, and that each and every one will look back on it with pleasure, already planning to attend the next.

With best wishes to all,

I remain, yours sincerely,

(Signed) ALBERT WRIGHT,
Vice-President, Saskatchewan.

ALBERTA BRANCH

Edmonton, Alberta,
August 17th, 1926.

Mr. A. Officer,
Winnipeg, Man.

Dear Sir,

I have the honour to report as Alberta Branch President, that throughout Alberta, little if any change is noticeable in regard to Association work. Everything seems to be going along smoothly for the majority of the Inspectors.

Yours truly,

(Signed) G. PURDON HEAD,
Vice-President, Alberta.

BRITISH COLUMBIA BRANCH

Vancouver, B.C.
August 16th, 1926.

A. Officer, Esq.,
Winnipeg, Man.

Dear Sir,

I herewith submit the Annual Report for this Branch. In doing so regret is expressed for the delay which has been caused through various reasons over which we have no control. We have now a total of fourteen members, having started with nine. We have had meetings nearly every month and a couple of lectures to the members of the local Branch, both being appreciated. There is a keen desire among some members to obtain enlightenment respecting the legal side of the profession, that is, procedure on cases.

There is no doubt that this Branch is feeling the same drawbacks as other Branches, that is, the lack of numbers in the Association, for it seems today more than ever that the larger the body the more influence it exerts.

It seems to us that the greatest obstacle we have to deal with is the invisible hand of non-interest, and it is no doubt owing to the sparsely populated state of this immense land we know as Canada, and also to the fact that so few of us know very much about our Canada.

We all look forward to the day when the radio will be used freely and without obstacles for the purpose of disseminating knowledge on all subjects for the betterment of all Canadians.

In concluding, we extend to you our thanks for the deep interest you have taken in our Branch, and we trust that this report, though short, will do for now, hoping for more, much more interesting ones in the future.

Yours truly,

(Signed) R. H. MEEK,
Branch Secretary.

Monthly Jottings of the Sanitary Inspectors' Association of Canada

The Annual Conference of the English Sanitary Inspectors' Association, held at Ramsgate, was a great success. The membership is now 2,046, an increase of 95 during the year. The address of the President, Sir William J. Collins, was as usual very brilliant. Amongst the names on the programme we note that of Mr. P. B. Tustin, a former member of our own Association.

Mr. Tustin is now Technical Adviser to the United Dairies, Ltd., London. He spoke on Milk Production and Distribution, with special reference to pasteurization. Before commencing his address, Mr. Tustin took the opportunity of conveying fraternal greetings from Canada.

Sir Henry Kingsley Wood, of the Ministry of Health, spoke on Housing, which is a serious problem in England.

There were papers on Mosquito Control, Smoke Abatement, Public Health Administration, the Safeguarding of the Food Supply, (other than meat), from contamination, Fish Inspection, etc.

Invitations were sent to 1919 Local Authorities in England and Wales asking that delegates be sent. The response was good. In addition to the Sanitary Inspectors, a large number of Aldermen and Councillors attended, and the Ministry of Health was officially represented.

A note says that the large attendance was due to "the fact that Local Authorities now realize the value of the Annual Conferences organized by this Association in assisting Sanitary Inspectors to keep abreast of the times in relation to their duties, and to the action of the Minister of Health, in consenting to sanction the payment of the reasonable expenses of Sanitary Inspectors attending the Conference."

The English Association is 40 years old and the population of England is four or five times as large as Canada's, but given a little time and some hard work our showing will eventually be as good as that of our brothers across the sea. We wish them success as they are leaders in every sense of the word. The work they have done to improve the status of Sanitary Inspectors should be an example and an inspiration to the Sanitary Inspectors' Associations in the British Dominions.

Please note that the keynote of the English Association has been education. Get the general knowledge, add to it the technical knowledge required in our profession, and the status of the Inspector goes up in the estimation of the public.

In Western Canada most Sanitary Inspectors are certificated. Municipalities when they advertise a vacancy require that applicants shall be qualified. In these Provinces there are Examining Boards of the Royal Sanitary Institute.

In Ontario, at the present time, there does not appear to be such a Board in existence, and yet there must be a very large number of sanitary Inspectors in that Province who have never had the chance to sit for an examination. We know of one or two, and there must be many more who would, with a little inducement, present themselves for examination if opportunity were afforded. The Ontario members should take steps, without delay, to have an Examination Board appointed for the Province and endeavour to arrange examinations first in Toronto and later on at other centres. Application should be made to Mr. E. White Wallis, F.S.S., Secretary and Director, The Royal Sanitary Institute, 90 Buckingham Palace Road, London, S.W.1. The Executive Council will assist by supporting such a request, but the first move should be the manifestation of a desire for such a Board by the Ontario Inspectors.

Short-time courses, such as were advocated at our recent Convention at Brantford, will not fill the bill. Courses of lectures in the higher branches, extending over not less than six weeks and attended by men already qualified, would be of great service, but for beginners studying for examination, classes and private study are the best because such men have to begin with the rudiments, arithmetic, mensuration, elementary chemistry and physics. In large centres such classes under a competent tutor might easily be formed.

The City of Prince Albert, Saskatchewan, recently advertised for a successor to Mr. Albert Wright, who has resigned and moved to British Columbia.

The President and Members of the Executive Council extend to the members the season's greetings and hope that individually and collectively the New Year will be a good one.

Saskatchewan Health Officials' Association

Address given by Dr. W. H. Orme, Veterinary Inspector, City of Saskatoon, before the first annual convention of the Saskatchewan Health Officials' Association at Saskatoon, September 22nd, 1926.

I WISH to congratulate the officers and members who have been largely responsible for the organization of this Provincial Health Association. I trust it will grow into a strong, healthy individual, taking its place among the other public health associations throughout the country.

I have been invited to address you today on the relationship of the veterinary profession to public health. This is rather a large order, especially for the writer, and, as there is only a limited time at my disposal, I shall be as brief as possible.

The Health of Animals Branch, functioning through the Federal Department of Agriculture, have, for many years, employed a large number of veterinarians who supervise and make anti and post-mortem examinations of all food animals that are slaughtered in the various abattoirs throughout this country. The canning factories are also under the supervision of this Department, and a large number are employed in controlling, preventing and suppressing contagious and infectious diseases. A strenuous campaign has been waged against bovine tuberculosis, first, under what is known as the municipal Tuberculosis Order; second, the accredited herd system, and, in addition, they are now using what is known as the area testing, which will probably prove to be the quickest method of eradicating this dread disease.

Commencing in May 1915 this Department has been applying the tuberculin test annually to all the dairy herds supplying this City with milk, with the result that this disease has been completely eradicated.

The importance of research in animal pathology to public health has been demonstrated in various ways through the laboratories of the Health of Animals Branch. Furthermore, the prevention, suppression and control of animal diseases communicable to man, such as glanders, rabies, anthrax, bovine tuberculosis, etc., the anti and post-mortem examination of animals that are important sources of human food supply, indicate the direct relationship of animal pathology to public health.

But there is another field opening up for the veterinarians in which I am most interested; that is the supervising of a city's milk supply. At the present time practically all towns and cities employ dairy inspectors, and these men are doing excellent work in the way of insuring clean milk for the citizen, but we must go very further if we expect to progress. We must do more than insist on clean stables, cows free from filth, sterilized utensils and sanitary methods employed in milking and cooling the milk, for, after all, milk is only as wholesome as the cow that produces it. Those of you who know the pathological and physiological changes taking place in the udder during the process of milk formation, (and that is twenty-four hours a day during the lactation period) can readily see what may happen if a pathogenic organism gains access to the interior. During my inspections I frequently find cows suffering with retained after-birth (a very putrid condition), infectious mastitis, contagious abortion, emaciation, teat lesions and numerous other diseases that the dairy cow is heir to, and always producing more or less milk which is usually added to the regular supply, simply because the dairyman does not realize the danger of milk from such animals or is not in a position to employ professional services. The veterinarian, when making inspections, will be quick to note any abnormal conditions existing in the herd, will make a diagnosis, advise the owner how to treat the animal, how to make use of anti-septics in the way of prevention and prescribe if necessary.

Some of you may ask what this has to do with clean milk. I believe it has a good deal to do with it. I hold the view that commercialism and public health must work together if the latter is going to make progress. The public can only get as much public health as they are willing to pay for.

Dairying in this province at the present time is not a very remunerative occupation. It is usually looked upon as a side-line. It is not understood by many, and a great deal of education will be necessary before this industry will be on a sound paying basis, and I submit, Mr. Chairman, that it is the duty of municipalities, especially cities, to employ men who have training in this work, not only for sanitary methods, but to advise the dairyman how to cull his herd, remove the star boarders, how to mix and balance concentrates and rations, the value of pure bred sires, etc., for we can only improve our milk supply as the standard of living and methods improve on the dairy premises.

The Canadian Council on Child Welfare

NEWS NOTES

The Canadian Council on Child Welfare was founded in Ottawa in October 1920, as the outcome of a conference of representative workers from the whole Dominion, convened by the Dominion Department of Health. The Council receives a grant from the Federal government, but for the greater part of its work, relies on membership fees, and donations from private sources.

Its work is carried on in five sections:—Child Hygiene, the Child in Employment, Education and Recreation, the Child in Need of Special Care, the Spiritual and Ethical Development of the Child. This year, at the Council's annual meeting, new subsections were created to give especial attention to Recreation and Delinquency.

The programme and objectives of the Council include the promotion (in co-operation with the Dominion Department of Health, Child Welfare Division, and the Child Welfare Departments of the various provinces) and formation of an interested and intelligent body of public opinion on Canadian Child Welfare problems. To this end, the Council is seeking to obtain, in principle and practice throughout the Dominion, the observance of minimum standards of Child Welfare, which shall not fall below recognized national standards in this field. The Council also seeks to provide such publications, posters, assistance and special services, in the Child Welfare field, as may be requested from time to time by Canadian workers. It also arranges national conferences annually and local conferences on request on Child Welfare topics.

The year just concluded has been a most active one, it being the first year of the Council's operation under a full time executive. Activities in the public health field have been many and varied, as reported by the Chairman of the Child Hygiene Section, Dr. Grant Fleming, Montreal.

CHILD HYGIENE ACTIVITIES 1926-27.

1. *Publication and distribution of Prenatal Letters.*

By co-operative arrangement with the Provincial Departments of Health, the Council has published a series of prenatal letters, which have been taken over by five of the provinces and distributed by them. Two of the provinces had previously established their own services. In the other two, Ontario and Quebec, the Council handles the services

directly. The letters are available in English or in French and are sent free upon request. In the six months following the inception of the service, 4,408 sets have been distributed.

2. Patterns for Layettes and Abdominal and Hose Supports.

Arising out of the prenatal letter service, a demand arose for these patterns. The Council has arranged for the publication of an abdominal and hose support pattern, which, by buying in quantities, it can retail at a comparatively low price, to agencies, clinics, etc. A standard layette pattern is now in preparation and will be published early in 1927.

3. Well Children's Examination Forms.

(a) For Physicians' use. (b) For Nurses' use. The Council has published two forms for the recording of examinations of well children. This was done, first of all, as part of a general campaign to encourage routine health examinations, and secondly to provide a form which is an essential part of such examinations. One form is suitable for use by physicians in clinics or in their practice. It is intended to circularize all physicians, sending a copy to each as a sample. The other form is for the use of the public health nurse working in a mothers' conference where there is no physician attached.

4. Charts and Posters.

Two wall charts have been published, one giving statistical presentation of Infant Mortality in sixty Canadian Cities, and one analyzing the causes of infant deaths in the registration area 1925. An attractive children's health poster in colours has also been issued.

5. Diet Folders.

By a co-operative arrangement with the Canadian Public Health Association, the Council is issuing a new edition of the popular diet folders, previously published by the former group. These will be available in January 1927.

Conference 1927.

The Canadian Child Welfare Conference will be held in Vancouver and Victoria, May 23rd to 27th. It is proposed to devote all day Monday, May 23rd, to topics of Child Health.



The Provincial Board of Health of Ontario

Communicable Diseases Reported for the Province by the Local Boards of Health for Weeks Ending Oct. 2, 9, 16, 23, 30, 1926.

COMPARATIVE TABLE

Diseases	1926		1925	
	Cases	Deaths	Cases	Deaths
Cerebro Spinal Meningitis	5	1	5	5
Chancroid	1	—	—	—
Chicken Pox	544	—	460	—
Diphtheria	429	22	407	14
Encephalitis	7	5	2	2
Gonorrhoea	177	—	141	—
Influenza	—	10	—	11
German Measles	7	—	6	—
Measles	383	—	399	—
Mumps	25	—	103	—
Pneumonia	—	128	—	165
Poliomyelitis	27	4	17	—
Scarlet Fever	351	1	384	6
Septic Sore Throat	3	—	5	—
Small Pox	75	—	19	—
Syphilis	173	—	128	—
Tuberculosis	96	54	142	66
Typhoid	101	10	137	5
Whooping Cough	304	3	247	6

The following municipalities reported cases of Small Pox: Sudbury Town 3, Peterboro 12, Carleton Place 1, Timmins 48, Belleville 4, Toronto 4, Orillia 2, Gananoque 1.

JOHN W. S. McCULLOUGH.

Book Review

A Short Life of Florence Nightingale: Abridged from the Life by Sir Edward Cook, with additional matter by Rosalind Nash. The MacMillan Company, New York and Toronto, publishers. 390 pages with Index. Price \$3.50. Cloth bound.

In this volume we have a new attempt to portray the baffling character of this strange Victorian. It is not altogether a fresh contribution, for the writer carefully explains that it is "Sir Edward Cook's book in a shortened form", but we must lay equal emphasis upon the rest of Mrs. Nash's explanation that "some passages of it are fresh and there is some rearrangement of the material". In the two parts of that explanation we find suggested the special value of the book for each of the two groups of readers whom it will serve. In the first place it gives a reliable and readable story within the compass of one volume of a size and form which will be much more generally read than the "profusion, solidity and elaborate detail" of Sir Edward's original work. While this particular story is still so little known or understood, and while the perspective which it could give for the consideration of our present work is so direly needed by all those who are struggling (or muddling) with nursing and hospital affairs, this first is indeed a commendable achievement. It seems too that the serious student of the period will be grateful for the brief but significant bits of the book which are new. The writer has had access to fresh material and is able to throw some further light on the character of Florence Nightingale and the activities of her cabinet. Mrs. Nash is plainly aware of the complexity of her task, but handles it with restraint, for she presents the facts as clearly as the brief review permits and then leaves the reader to make his own interpretation: in her own words the writer expects that "the life may now be allowed to speak for itself". This attempt to give something of the whole story in one volume leaves the reader a bit breathless, for of necessity the pages are too greatly crowded with people and action; however, in spite of these limitations, the result is serviceable. An interesting note is found in Appendix A, where Mr. Lytton Strachey's "caricature" of Florence Nightingale is evaluated, but I am still wondering what imp of absurdity prompted the addition of Appendix D.

E. K. RUSSELL,

Editorial

TOXOID IMMUNIZATION

Toxoid as a means of preventing Diphtheria is one hundred per cent. safe. Nobody wants his child to contract diphtheria. Nobody would willingly refuse a simple means of infallible protection. Yet even among well-informed parents we find certain hesitation about having the pre-school youngsters immunized with toxoid. It is all right, they will say to you, provided you get good virus. The answer is that the toxoid produced today by Connaught Laboratories is as harmless as it is efficient.

One out of every eleven of the 13,696 cases of diphtheria in Buffalo during the last eleven years died, and the majority of those who died were under school-age. Every year thousands of children are being vaccinated against diphtheria, and the effect of this excellent measure is being reflected in the lowered death rate from diphtheria which is evident in localities where much work has been done along these lines. This result in the control of a dread disease of early childhood is all the more gratifying in that immunization which means protection against diphtheria is accomplished with no local or general reactions in the vaccinated children. Very young children have no reactions whatever from toxoid.

The best time to vaccinate against diphtheria is any time after the third month during the first year. That is the time when the child requires the protection most. Heaviest mortality rates from diphtheria are in children below the school age, and it is safe to say that the immunization of one child before six years of age will equal the immunization of five school children in effect of the diphtheria death rate. It is extremely important that means be taken to reach this very important group of children.

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To Become Wealthy

At Age 65—



ONE only will be wealthy—



FOUR will be well-to-do and able to enjoy comfort and recreation—



FIVE will still be working for a living, with no prospect of relief from drudgery—



THIRTY-SIX will have died; in many cases leaving families enduring hardships—



FIFTY-FOUR will be dependent on friends, relatives or charity.

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You, perhaps, have the same ambition. At least, you want to be well-to-do later on, and able to enjoy comfort and independence.

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Experience shows that of 100 average healthy men 25 years of age, the following will be true at 65:

- 1 only will be wealthy.
- 4 will be well-to-do.
- 5 will be compelled to go on working for a living.
- 36 will be dead.
- 54 will be dependent upon friends, relatives or charity.

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